

October 13, 2004

Docket Management Facility  
US Department of Transportation  
400 Seventh Street, SW  
Nassif Building, Room PL-401  
Washington, DC 20590-001

Subject: **Docket No. NHTSA-2004-17694, Notice 1 RIN 2127-AJ10**  
**Federal Motor Vehicle Safety Standard 214, Side Impact Protection**

Dear Sirs:

Autoliv ASP, Inc. ("Autoliv"), is pleased to submit the following comments to the National Highway Traffic Safety Administration (NHTSA) in response to the May 17, 2004 Notice of Proposed Rulemaking (NPRM).

The Autoliv comments re Docket No. NHTSA-2004-17694, are as follows:

1. Comments were requested on the need to exclude other types of vehicles from the pole test, such as convertibles that lack a roof structure enabling the installation of an air curtain. Suggestions that NHTSA exclude certain vehicle types should include information supporting the exclusion and a discussion of the extent of the exclusion (*e.g.*, from only the limit on HIC and not the limits on the other injury criteria of this proposal).

Autoliv is currently working on developing a restraint systems to protect occupants in a pole impact for applications such as a convertible. These systems do not, however, address the structural challenges that may be involved in applying the pole impact test requirement to all vehicles that lack a roof structure. Accordingly, the current technology being developed by Autoliv may not be appropriate for all possible vehicle types or configurations.

2. Comments were requested on using the SID-H3 dummy instead of the ES-2re dummy proposed for this standard, since it can also measure the risk of head injury.

Autoliv supports the proposal to replace the SID and SID-H3 in with the ES-2re dummy, based on the improved biofidelity of the proposed dummy and the tendency toward closer harmonization with other global test requirements (*ie*; ECE R95). Using the same test dummy globally would allow manufacturers to focus on optimizing the air bag design to the performance requirements of the more biofidelic dummy.

3. The NPRM proposes to refine how the vehicle test attitude is determined.

Autoliv supports this proposal on the basis of better harmonization with other FMVSS procedures.

4. In the NPRM, the proposed test speed for the pole impact test is 32 km/h (20 mph). Comments were

requested on the alternative of a 29 km/h (18 mph) test speed. The 29 km/h (18 mph) test speed is used in the perpendicular pole test of FMVSS No. 201.

Autoliv's supports the higher test speed of 32 km/h on the basis that it would benefit more occupants in real world crashes. The higher speed will present some challenges, however, particularly for thorax protection as these criteria are new for pole impact tests. We do not anticipate that these challenges will affect our ability to meet product demand for the phase-in requirements proposed.

5. Comments were requested on NHTSA's conclusions that combination and head protection air bags would generally need to be wider if the agency adopted a 75-degree vehicle-to-pole test instead of a 90-degree one, particularly if the ES-2re and SID-II'sFRG dummies were both used in testing side air bags.

NHTSA is correct that many current side air bags would need substantial modifications to meet the increased coverage zones driven by the proposed requirements. NHTSA is also correct in their belief that side curtain air bags would generally require less redesign than seat mounted side air bags. However, the proposed changes will affect side curtain air bag design to a degree. The proposed standard is likely to drive larger curtain air bag volumes, and may create new packaging challenges in some vehicles. We do not anticipate that these challenges will affect our ability to meet product demand for the phase-in requirements proposed.

6. Comments were requested on the appropriateness and practicability of using the 75-degree angle of approach as well as the 90-degree impact angle now used in the optional pole test of FMVSS No. 201.

Autoliv supports the 75 degree angle of approach vs the 90 degree angle on the basis that more occupants will be protected in real world crashes.

7. Comments were requested on applying the pole test to the rear seat.

Autoliv supports legislation for the protection of rear seat occupants, but understands NHTSA's decision to exclude the rear seat from this requirement at this time. As few vehicles are currently equipped with rear seat side air bags, and even fewer have been developed for thorax protection during a pole impact, application of the pole impact requirement to the rear seat may be difficult over the short term. As NHTSA has observed, many vehicles that are equipped with side curtain air bags already provide second row occupant protection with these systems. One way to include the rear seat in this regulation may be to regulate head impact protection requirements only for rear seat occupants.

8. Autoliv would like NHTSA to provide information on the effects this NPRM will have on changes to NCAP. If there is a significant difference between Lateral NCAP and FMVSS 214 (MDB) test conditions and requirements, there may be significant challenges in meeting requirements of both (potentially conflicting) test conditions. Differences in these conditions and requirements will likely impact current product development initiatives and could also have a negative effect on the timing required to meet the proposed requirements of FMVSS 214. Autoliv supports the phase-out of the SID and SID-H3 as currently used in NCAP assessment and FMVSS 201.

October 14, 2004~~October 13, 2004~~

Autoliv hopes that the above comments will be beneficial in implementing the upgrades to this standard.

Sincerely,

Douglas J. Stein  
Autoliv North America